



RADIUS SYSTEMS BEST PRACTICE EXCHANGE PROGRAMME

In February 2013 Russian POLYPLASTIC Group acquired Radius Systems. Management of both companies has set several programmes aimed to reach maximum synergy effect from this merger.

One of these programmes was designed for implementation of series of Radius Systems practices at POLYPLASTIC Group's plants, such as raw materials logistics, packing, warehouse processing, handling – all that can improve efficiency and quality of customer service.

There were no doubts that a lot could be learnt from Radius Systems. The company is a brilliant example of

Lean Six Sigma strategy implementation (see "Lean Six Sigma"). Prior to acquisition the company was on the brink of going into administration and the need of crisis measures.

The waste reduction and operation improvements programme fairly quickly showed good results: Radius Systems have managed to reduce production cost, waste, raw materials overconsumption and increase assets value within the short period of time.

Senior operations managers from POLYPLASTIC Group and Klimovsk Pipe Plant have visited Radius Systems for

Best Practice Programme. As a result of the visit the specialists have concluded that goals cannot be achieved only by administrative measures, it is very important that middle managers and operators understand set goals and targets. That is why the three weeks' visit of the group from Klimovsk Pipe Plant to Radius System was organised in August 2014. The group consisted of Shift manager and Leading operator of solid-wall pipe production, Shift leader of corrugated pipe production, Technologist of Production Department.

Graham Thurlow, Operations Improvement Director of Radius Systems Ltd: "Professionalism and innovativeness"

The purpose of the visit was an exchange of best practise tools and techniques and for both POLYPLASTIC and Radius Systems employees to learn from each other, share ideas and where practical to introduce new practices and processes in their normal working environment.

The programme was delivered over a 3 week period between the dates of 11th – 28th August and consisted of some training room based presentations and discussions and factory floor "hands on" experience.

They also were given the opportunity to visit our Northern Ireland facilities, Banbridge and Lurgan.

The key topics covered in the best practise programme were:

1) To share our Operations Strategy at Radius systems with an emphasis on Quality, Cost, Delivery (QCD);

2) Provide an overview of the 7 key performance measures which are used:

- Not right first time;
- Delivery Schedule Achievement;
- People Productivity;
- Stock Turns;
- Overall Equipment Effectiveness;
- Value Added Per Person;
- Floor Space Utilisation.

3) Identify how we can improve further by effective execution of the strategy:

- Through SMART objectives: Specific, Measurable, Achievable, Realistic and Time-related;
- Measure attainment;
- Using facts to make decisions;
- Collaborate with our customers (Operational, supply chain & commercial benefits);
- Communicate effectively;
- Respond to failure and take corrective action;
- Celebrate success.

4) Material usage optimization to reduce scrap rates and increase yield;

- Right first time pass is a key measure of our effective use of resin;
- Scrap and overweight must be well controlled;

- Measurement of overweight against minimum specification;

- Radius Systems methodology, monitoring and control and escalation of issues and corrective action;

5) Approach to problem solving:

- Use of standardised tools & techniques;
- Performance linked improvement (root cause analysis, performance measures, closed loop process control).

Both POLYPLASTIC & Radius employees felt that the programme content had worked well, especially when our POLYPLASTIC guests were able to be "hands on" with the manufacturing processes. Representatives for Radius were very impressed with the skill level and knowledge of their POLYPLASTIC colleagues and commented on how they had integrated well and assisted in the day to day site operations.

The group size of 6 people seemed to work well as they could be allocated to different activities around the factory and worked with numerous people as the shift pattern rotated. Specific examples were raised on how tasks are carried out differently in Klimovsk with a number of good ideas raised on how we could reduce process set up and shut down here in Hilcote. Specific topics discussed by the group were:

- Thermal centering techniques;
- Use of Ultrasonic and Infrared hand held measurement instruments;
- Die pin heating;
- Calibrator care and cleanliness.

Our POLYPLASTIC guests commented that were taking back many examples of good ideas and ways of working which they would like to consider in their own working environment. The automation cells in our fittings manufacturing area was new technology for them, so good experience was gained here.

Other than the duration of the program where we agreed that a 2 week programme would work better in the future rather than the original 3 weeks, the consensus was that the content was relevant to their skill set and experience and they felt future groups would benefit from the programme. We discussed other ways that processes, procedures and ways of working could be shared as examples of best practise and we agreed that electronic transfer where practical would work well.

Our 6 guests were all very appreciative of the organisation which had gone into the programme and the involvement and camaraderie of all those involved at Radius Systems, likewise the team at Radius expressed that even when communication was difficult they had been able to find ways to communicate and make the process work well.

The process has involved lots of hard work and some long hours, but has proved very rewarding. We have also shared plenty of amusing times during the various social

activities of fishing, football, ice hockey etc. Great credit should go to our 6 guests for being so professional and receptive to the objectives of the best practise program.

On behalf of Radius Systems, I'd like to thank them all for their participation over the last 3 weeks

Aspects of British manufacture

It was difficult to surprise Russian Programme participants with modern pipe production equipment. The equipment they operate back home at their plant is similar to what you can find at any modern European production. The guests concentrated their attention on organisational matters, shop floor optimisation, duties allocation and communication between the departments.

For example, they noticed distinct duties allocation and responsibilities of the operations personnel, the Shift Manager deals with administrative work, technologists are responsible for preparation, start-up and parameters set-up, operators provide control, packing and dispatch to the warehouse. Functions of Quality control department and laboratory are provided by the same division working round-the-clock.

The guests have also paid attention to the distinct health and safety rules and strict use of PPE, such as steel-toes boots, different types of gloves, goggles, helmets, which are usual for European Manufactures.

They also learned about goods acceptance procedure, storage, raw material supply, automation, use of special handling equipment for coils, handling of pipes and waste, start pipe preparation, storage of ready produce at the warehouse and other.

Dispatch of ready produce to the warehouse is done by production line operator by logging the information on quantity and waste into the data base. The interaction between production and technical teams is done via centralised computer system by logging the information on breakdowns, equipment failures, repairs and maintenance.

Many things that Russian specialists saw at Radius Systems during the visit can be and must be implemented in Russia. The matter of loss minimisation, savings and quality management at all stages of the procession are becoming more significant. Radius Systems is a bright example of the strategy efficiency based on these principles.

FOR INFORMATION

LEAN SIX SIGMA

Lean Six Sigma is an integrated concept that combines the most popular quality management methodologies of the 90s: Lean Manufacturing, which is focused on waste and overhead costs elimination, and Six Sigma aimed at minimising variability of the process and stability of product characteristics.

Lean Manufacturing was created in Japan as methodology for elimination of waste in car industry. Its essence is the value for the customer. According to this concept the whole activity of the enterprise can be split into operations and processes that add value for the consumer (quality, functionality, design that customer would be prepared to pay for) and operations and processes that do not add value (e.g. storage). Therefore, anything that does not add value to the customer must be eliminated.

Six Sigma concept has American roots and was created to fight defects by reducing process variability in semi-conductors manufacture.

Six Sigma concept name comes from the definition of standard deviation, which is described by Greek letter σ . The maturity of the production process is represented as

σ -rating of deviations or the percentage of defect-free produce at the output. Six Sigma is the level of process efficiency with only 3.4 defects per million opportunities. The defect can be established at any stage of the process: e.g. no response to customer's request, mistake in the purchase order, incorrect invoice, non-conformity to the specification and others.

According to Six Sigma concept, one of the key factors of the success is good organisation. All activity is done within the project frame with set targets and terms. Each project will have roles and responsibilities allocated, set and clear project implementation order, integrated data logging. Each stage of the project is regularly monitored using metrics, set system of measured indicators.

Six Sigma methodology pays attention to statistic control of processes which predicts behaviour and give possibility to make correction in due time to avoid potential problems.

Six Sigma concept is comprised of the best practise which allows enterprises to achieve great economical results in short terms by reducing all types of waste and setting stable controlled processes. Six Sigma concept is widely used and can be implemented by any company regardless its size and industry.